

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

First named inventor: Georg Reinbold
Serial No: 10/709,344
Filing Date: 4/29/2004
Title: Method for Sawing Pieces of Wood
Examiner: Laura Michelle Lee
Art Unit: 3724

APPEAL BRIEF

Appellant herewith submits the Appeal Brief pursuant to 37 CFR 41.37 in support of the Notice of Appeal filed 2/5/2010 in the Patent and Trademark Office.

The required **fee for filing a brief in support of an appeal** pursuant to 37 CFR 41.20(b)(2) in the amount of \$270.00 is paid herewith.

TABLE OF CONTENTS

REAL PARTY IN INTEREST	Page 3
RELATED APPEALS AND INTERFERENCES	Page 4
STATUS OF CLAIMS	Page 5
STATUS OF AMENDMENTS	Page 6
SUMMARY OF CLAIMED SUBJECT MATTER	Page 7 to 9
GROUND(S) OF REJECTION TO BE REVIEWED ON APPEAL	Page 10
ARGUMENT	Pages 11 to 22
CLAIMS APPENDIX	Pages 23 to 25
EVIDENCE APPENDIX	Page 26
RELATED PROCEEDINGS APPENDIX	Page 27

REAL PARTY IN INTEREST

Real party in interest is the assignee of record, **GreCon Dimter Holzoptimierung Süd GmbH & Co. KG**, of Rudolf-Diesel-Str. 14-16, 89257 Illertissen, Germany.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claim 1 - canceled.
Claim 2 - canceled.
Claim 3 - canceled.
Claim 4 - rejected, on appeal.
Claim 5 - rejected, on appeal
Claim 6 - rejected, on appeal
Claim 7 - rejected, on appeal
Claim 8 - rejected, on appeal.
Claim 9 - rejected, on appeal.
Claim 10 - rejected, on appeal
Claim 11 - rejected, on appeal
Claim 12 - rejected, on appeal
Claim 13 - canceled.
Claim 14 - canceled.
Claim 15 - rejected, on appeal
Claim 16 - rejected, on appeal.

STATUS OF AMENDMENTS

No amendment after final was filed.

The claims in the appendix reflect the changes made by amendment filed 4/23/2009.

SUMMARY OF CLAIMED SUBJECT MATTER

Claim 15 relates to a method for sawing pieces of wood in a sawing station. The method comprises the following steps:

a) measuring the pieces of wood 1a, 1b, 1c ... in a measuring station 6 (see paragraph 0018; Fig. 1)

b1) - sequentially and continuously transporting (see paragraph 0023, second to last sentence; 0026, last sentence; Fig. 1) at a variable feeding velocity on a transport device 7 the pieces of wood 1a, 1b, 1c ... from the measuring station to a sawing station 3 (paragraph 0021, 3rd and 4th sentences)

b2) - scanning (scanner 11, Fig. 4) a position of each of the pieces of wood during transport on the transport device 7 from the measuring station 6 to the sawing station 3 (see paragraph 0029; Fig. 4)

b3) - sending input signals of the scanned position to a control unit 12 (see paragraph 0029; Fig. 4)

c1) - cutting the pieces of wood 1a, 1b, 1c ... in the sawing station 3 in a transverse direction that is transverse to a transport direction of the pieces of wood 1a, 1b, 1c ... in the sawing station 3 while the pieces of wood 1a, 1b, 1c ... are stopped briefly to allow cutting in the transverse direction into at least two sections based on measured results taken in the step a) (see paragraph 0024, 2nd and 3rd sentences)

c2) - monitoring a saw position of a saw of the sawing station 3 (see paragraph 0029)

c3) - sending input signals of the saw position to the control unit 12 (see paragraph 0029)

d) recalculating and variably adjusting, based on the input signals of step b) (scanned position prior to cutting) and step c) (saw position), the feeding velocity of the pieces of wood 1a, 1b, 1c ... during transport according to step b) (paragraphs 0029-0030) such that

- sequentially transported pieces of wood 1a, 1b, 1c ... have a minimal spacing relative to one another (see paragraph 0024, last two

sentences; Fig. 3)

- a second piece of wood 1b that trails immediately a first piece of wood being cut in the sawing station 3 is already transported into the sawing station while the first piece of wood 1a is still being cut (see paragraph 0024, last two sentences; Fig. 3).

The gist of the present invention, as claimed in claim 15, is that the **feeding velocity of the pieces of wood** from the measuring station to the sawing station is **recalculated and variably adjusted based on the input signals of scanned position (prior to cutting) and saw position** in order to make sure that sequentially transported pieces of wood have a minimal spacing relative to one another and a second piece of wood (1b) that trails immediately a first piece of wood (1a) that is being cut in the sawing station is already transported into the sawing station while the first piece of wood is still being cut. This optimizes the throughput per time unit for the sawing device.

Claim 16 relates to a method for sawing pieces of wood in a sawing station. The method comprises the following steps:

- a) measuring the pieces of wood 1a, 1b, 1c ... in a measuring station 6 (see paragraph 0018; Fig. 1);
- b1) - sequentially and continuously transporting (see paragraph 0023, second to last sentence; 0026, last sentence) at a variable feeding velocity on a first transport device 7 the pieces of wood 1a, 1b, 1c ... from the measuring station 6 to a sawing station 3 provided with a second transport device 9
- b2) - scanning a position of each of the pieces of wood 1a, 1b, 1c ... during transport on the first transport device 7 from the measuring station to the sawing station 3 (see paragraph 0029; Fig. 4)
- b3) - sending input signals of the scanned position to a control unit 12 see paragraph 0029; Fig. 4)
- c1) - moving the pieces of wood on the second transport device 9 through the sawing station 3 (see paragraph 0029; Fig. 4)
- c2) - cutting the pieces of wood 1a, 1b, 1c ... in the sawing station 3 in a transverse direction that is transverse to a transport direction of the pieces

of wood in the sawing station 3 while the pieces of wood are stopped briefly on the second transport device to allow cutting in the transverse direction into at least two sections based on measured results taken in the step a) (see paragraph 0024, 2nd and 3rd sentences; paragraph 0027)

- c3) - monitoring a saw position of a saw of the sawing station (see paragraph 0029; Fig. 4);
- c4) - sending input signals of the saw position to the control unit (see paragraph 0029; Fig. 4);
- d) inputting continuously a speed of the first and second transport devices 7 and 9 (Fig. 4) into the control unit, respectively (see paragraph 0030)
- e) continuously recalculating and variably adjusting, based on the speed of the first and second transport devices of step d) and the input signals of step b) and step c), the feeding velocity of the pieces of wood on the first transport device such that (paragraph 0030)
 - sequentially transported pieces of wood have a minimal spacing relative to one another (see paragraph 0024, last two sentences; paragraph 0029, last sentence; Fig. 3)
 - a second piece of wood that trails immediately a first piece of wood being cut in the sawing station is already transported to the second transport device of the sawing station while the first piece of wood is still being cut (see paragraph 0024, last two sentences; Fig. 3).

The gist of the present invention, as claimed in claim 16, is that the feeding velocity of the pieces of wood on the first transport device (transport measuring station to sawing station) is **continuously recalculated and variably adjusted based on the speed of the first and second transport devices (step d)) and the input signals of scanned position (prior to cutting) and the saw position**. In this way it is ensured that sequentially transported pieces of wood have a minimal spacing relative to one another and a second piece of wood (1b) that trails immediately a first piece of wood (1a) that is being cut in the sawing station is already transported into the sawing station while the first piece of wood is still being cut. This optimizes the throughput per time unit for the sawing device.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 4-12 and 15, 16 are unpatentable under 35 U.S.C. 103(a) over *Murray* (US 2002/0069937).

ARGUMENT

Rejection of claims 4-12 and 15, 16 as unpatentable under 35 U.S.C. 103(a) over *Murray* (US 2002/0069937)

Claims 15, 7 to 9, 11 to 12

Examiner argues (page 2, middle of the page, to page 5, 1st paragraph) that *Murray* discloses a method for sawing pieces of wood in a sawing station (Fig. 1) comprising measuring the pieces of wood in a measuring station as disclosed in paragraph 0038, lines 7-10.

In regard to step b), Examiner states (last paragraph of page 2 of the office action) that the method discloses sequentially and continuously transporting (continuous feed; para 0041) at a variable feeding velocity (variable feed conveyor disclosed in para 0038) on a transport device (conveyor 14 or conveyor 54/62 in Fig. 5) the pieces of wood 12 from the measuring station to the sawing station (saw 26) and scanning by a photocell 28 the position of the pieces of wood on their path from the measuring station to the sawing station, input signals of the scanned position being sent to a control unit as set forth in para 0037.

In regard to step c) Examiner further states (1st paragraph of page 3 of the office action) that the log 12 is cut in the sawing station 26 transverse to the transport direction and the pieces of wood are stopped briefly (para 0038) to allow cutting in accordance with the measured values, wherein the saw position is monitored by log diameter information as disclosed in para 0039 and 0040, especially lines 14-24 of para 0039, with the input signals of the saw position being sent to the control unit.

In regard to step d) Examiner sets forth (page 3, center paragraph) that recalculating and variably adjusting the feed velocity - based on input signals of steps b) and c) - is disclosed by the variable feed conveyor wherein the sequentially transported pieces of wood have minimal spacing to one another (Examiner relies on para 0039 where increased throughput is mentioned) and a second piece of wood trailing the first piece of wood currently being cut is already transported into the sawing station (as stated by Examiner, the next piece is already on conveyor 14 or 62) while the first piece is still being cut.

The Examiner further sets forth (paragraph beginning on page 3, bottom, and running on to the top of page 5) that *Murray* discloses a variable speed conveyor 14 that continues to feed during the intervals when rolls 18, 19, 20 and 21 are stopped to buck the log 12. As an alternative, Examiner points out that *Murray* discloses that the infeed conveyor can be coordinated with the rolls 18, 19, 20, and 21 to stop and go in conjunction with them and still obtain increased throughput because the outfeed still continues to work while the log is sawed. In Examiner's opinion *Murray* discloses that although the conveyor is normally run at variable speed, it can also be coordinated to stop and go with the feed rolls that are processing the previously fed log.

Examiner argues that *Murray's* disclosure that the conveyor normally running at variable speed can mean one of two things: the conveyor can be changed to process the log at various discrete speeds or the speed of the conveyor is continuously changed during a single run. In Examiner's opinion it is apparent from the totality of the disclosure that it is the second interpretation that *Murray* intended. The Examiner further notes that, even when arguing that the term variable speed conveyor implies discrete speeds, in view of the finite number of identified predictable interpretations as set forth above, it would be obvious to one of ordinary skill in the art at the time of the invention to have presumed that the variable speed conveyor implies a continuously changing speed.

The Examiner further states that even though *Murray* does not positively state that the variations in speed of the variable speed conveyor are linked to the movement of the feed rolls and thus the processing of the previously fed log, it is apparent from the disclosure that this must be the case in order that the logs are not processed so fast that they contact each other during transport especially as increased throughput is the desired effect. It would have been obvious in Examiner's opinion that the variations in speed of the conveyor were imparted by the processing and transport of the prior logs as that is the only variable that would affect the speed of the following log especially as *Murray* discloses that the conveyor can also run stop and go with the feed rolls. Therefore, even though *Murray* does not specifically disclose that the variable feed of the conveyor is directly linked to the processing of the previous log, it would be obvious to coordinate the movement of the logs such that the throughput as disclosed in para 0039 is maximized as desired by appellant and also such that the logs are safely transported so as not run into each other.

On page 6, of the office action, under the heading "Response to Arguments" the examiner summarizes that *Murray* discloses that infeed and outfeed speeds are decoupled from the progress of the log as disclosed in para 0004 and that *Murray* also discloses in para 0038 that a variable speed is normally used and that moreover in para 0041 it is stated that the continued feed of the infeed conveyor leads to reduction of the gap between logs. Examiner then states that because the infeed and outfeed conveyors are independently operated from the sawing operation there must be a controlling means in order to ensure a smooth operation while still maximizing throughput.

Examiner basically relies on the disclosure of paragraphs 0037 to 0041 of *Murray* as disclosing the present invention as claimed.

Applicant respectfully disagrees with the assessment that the totality of the disclosure of *Murray* indicates that the speed of the conveyor would be continuously changed in the way claimed in claim 15, i.e.:

recalculating and variably adjusting, based on the input signals of step b) (the scanned position along the transport path) and step c) (the saw position), the feeding velocity of the pieces of wood during transport according to step b) such that **sequentially transported pieces of wood have a minimal spacing** relative to one another and a **second piece of wood that trails immediately a first piece of wood being cut in the sawing station is already transported into the sawing station while the first piece of wood is still being cut.**

Murray discloses only a coupling between the conveyor speed (feeding velocity of 14) and the transport speed through the sawing station by means of a stop-and-go operation; no variable speed adjustment of the conveyor speed is disclosed as a function of the scanned position on the transport device and as a function of the saw position.

The disclosure of *Murray* explicitly states that the improvement in throughput with the disclosed apparatus is achieved for a system where the infeed and outfeed conveyors are operated **independent of the log progress in the sawing station** in that the sawing station is improved (see paragraph 0004 of *Murray*, emphasis in bold added):

“The present inventor, as disclosed in his U.S. Pat. No. 5,680,802 issued on Oct. 28, 1997, provided a log bucksawing system in which the speed of the infeed or outfeed conveyors can be operated independently of the progress of the log at the sawing station to improve the throughput speed. The inventor has now discovered that the **efficiency of the system can be improved by providing a second cut-off saw which is movable**, and by making both dual cut-off saws movable.”

Thus, the throughput according to *Murray* is improved by the dual embodiment of the sawing station while no coupling between the infeed conveyor and the sawing station progress in the sense of recalculating and variably adjusting the conveyor speed is disclosed for throughput improvement.

Examiner states that it can be argued that a variable speed conveyor, given that there is only the option of providing discrete speeds for transport or that during a single run the speed can be varied, it would have been obvious to one of ordinary skill in the art at the time of the invention to have presumed that “variable speed conveyor” implies continuously changing speed. Examiner argues that even though *Murray* does not positively state that the variations in conveyor speed are linked to the movement of the rolls and the processing of the previously fed log, it is apparent from the disclosure that it must be the case in order that the logs are not processed so fast that they contact each other during transport, especially as increased throughput is the desired effect.

Appellant disagrees as *Murray* teaches that throughput is improved by dual saws and that the logs are prevented from contacting one another by the disclosed stop-and-go operation. There is no disclosure that links the progress in the sawing station to the infeed conveyor other than the stop-and-go operation and no recalculation and variable speed adjustment are taught in *Murray*.

Examiner argues that even though the variable feed conveyor of *Murray* does not specifically disclose that the variable feed of the conveyor is directly linked to the processing of the previous log, it would be obvious to coordinate the movement of logs such that the throughput (examiner references paragraph 0039) is maximized, as desired by the appellant, and logs are safely transported to not run into each other.

Applicant respectfully disagrees. First of all, paragraph 0039 referenced by the examiner has nothing to do with throughout increase based on recalculating and variably

adjusting the transport speed of the conveyor. This paragraph concerns the bucking process and the positioning of the saw relative to the log in order to reduce the stroke length of the saw as much as possible and thereby minimize the sawing time (emphasis added):

“ The throughput speed of the sawing or bucking process is increased by sensing of the log diameters as the log is advanced through the system. ... linear positioner or pneumatic linear positioning system which senses the length of the stroke on the hydraulic cylinder or pneumatic cylinder which controls the arm 23 and **thereby generates a signal indicative of the diameter of the log, which is also used for pre-positioning of the tilted feed roll 21 as the log moves forward.** ... The log diameter information is also used to pre-position the cut-off saw 26 as well as control the stroke of the saw when the log is bucked. For example, **as the diameter of the log changes, the rest position of the cut-off saw will be moved towards or away from the log to reduce the distance the cut-off saw must swing to saw the log. The length of the stroke or swing of the cut-off saw is also determined by the measured diameter of the log so that the cut-off saw can complete its stroke and return to its start position in the minimum time, thereby maximizing throughput.**”.

This disclosure exclusively relates to the determination of the log diameter in order to preposition the roll 21 and the cut-off saw so that the processing time in the sawing station is reduced. This paragraph does not relate in any way to recalculating and variably adjusting the feeding speed of the conveyor supplying the pieces of wood to the sawing station. This paragraph is thus irrelevant to the conveyor speed or recalculation and variable adjustment of the conveyor speed.

Applicant would also like to submit that *Murray* simply discloses in regard to the transport devices 14 and 24 (infeed and outfeed conveyors) in paragraph 0038 that they operate with a constant or a variable speed, normally at a variable speed. This single statement without any further explanation cannot suggest or teach the step of:

“recalculating and variably adjusting, based on the input signals of step b) and step c), the feeding velocity of the pieces of wood during transport according to step b) such that sequentially transported pieces of wood have a minimal spacing relative to one another and a second piece of wood that trails immediately a first piece of wood being cut in the sawing station is already transported into the sawing station while the first piece of wood is still

being cut”.

There is no disclosure as to the variability of the conveyor speed and what it is based on or relates to. During transport of the logs the transport speed of the logs on their way to the sawing station remains unchanged, as disclosed in para 0041 (“*Since the infeed and outfeed conveyors continue to feed during the intervals when the rolls*”). Alternatively, coupling between the speeds of the conveyor 14 and the rolls 18-21 is disclosed in *Murray* according to paragraph 0041 in that conveyor 14 and rolls 18-21 are coordinated in a stop-and-go operation.

Murray teaches that if feeding continues with conveyor 14 during bucking of the log, the gaps between the logs are reduced. However, this does not imply the **step of recalculating and variably adjusting the feeding velocity** of the conveyor transporting the logs to the sawing station for minimizing the spacing of the sequentially transported logs. This simply teaches that continued feeding (unchanged speed) in conjunction with the slower transport through the sawing station as a result of bucking leads to gap reduction.

Nowhere in the cited references is there any mention that the conveyor 14 may be used to vary the transport speed when supplying the next log to the sawing station. In Figs. 1 to 3 of *Murray* the sequence for supplying the first log 12 is illustrated. The conveyor 14 is matched with regard to its transport speed to the transport speed of the rolls 18-21 because the log 12 rests on the conveyor 14 while also being in contact with the transport rolls 18-21 (Figs. 1 and 2). Accordingly, the conveyor 14 and the rolls 18-21 must have the same transport speed. When the log 12 has left the conveyor 14 (Fig. 3) it is further transported by the rolls 18-21. The conveyor 14 can transport the next log. The log 12 is cut by means of the circular saw blade 26 into individual pieces and for this purpose in the area of the sawing station the described stop-and-go operation is carried out by the rolls 18-21, controlled by the computer (paragraph 0037). While this is happening, the next log is supplied by means of the conveyor 14; however, there is no disclosure in *Murray* that the new log is being supplied at a transport speed that is recalculated and variably adjusted. The log 12 by means of the conveyor 14 is transported with constant speed in the direction to the sawing station. The new log 12 on conveyor 14 cannot be received by the rolls 18-21 until the previous log has been sawed completely; only then the rolls 18-21 can return into the log receiving position shown in Fig. 1. This means that the feature of claim 15 “a

second piece of wood that trails immediately a first piece of wood being cut in the sawing station is already transported into the sawing station while the first piece of wood is still being cut” cannot be fulfilled by *Murray*.

The rolls 18-21 and their feeding velocity can be independent of the conveyor speed when conveyor 14 and rolls 18-21 are not coupled in stop and go operation and the log can then be transported quickly through the saw (see para 0038, second to last sentence):

“With the aid of the encoder information the log is then consecutively moved forward and stopped by the rolls 18, 19, 20 and 21 at the desired locations according to the scanner information to cut the log at the optimum lengths. The feed rolls are able in this way to move the log rapidly between successive cutting positions.”

Paragraph 0041 sets forth that

“Since the infeed and outfeed conveyors **continue to feed during the intervals when rolls 18, 19, 20, and 21 are stopped to buck the log, gaps between the logs are reduced and the throughput is increased**. The higher throughput speed during sawing is also achieved through the use of the vector duty electric motors and encoders on the feed rolls. It has also been found that the **infeed conveyor can be co-ordinated with the feed rolls 18, 19, 20, and 21 to stop and go in conjunction with them, and still obtain benefits in increased throughput**, as the outfeed will continue to operate while the log is bucked.”

The coupling action between the transport speed of the conveyor 14 and the rolls 18-21 in stop-and-go operation as disclosed in paragraph 0041 means a reduced throughput which *Murray* originally attempted to solve by the proposal of independent speed control of the infeed and outfeed conveyors (see paragraph 0004). *Murray* thus teaches that the infeed and outfeed conveyors continue to feed as the rolls are stopped for bucking and that by the continued feed the gaps are reduced between the logs; nothing is however said in regard to recalculating and variably adjusting the conveyor speed. It is only taught that the slowdown at the sawing station can be used to allow the next log to advance closer to the sawing station; note that none of the Figures of *Murray* shows that a second log is being transported already to the sawing station while the first log in the sawing station is being cut.

As pointed out by the Examiner, *Murray* teaches also that, instead of continuing to feed with the infeed and outfeed conveyors, the infeed conveyor can be correlated with the stop and go operation of the rolls, while the **outfeed conveyor** continues to feed the cut log sections away from the sawing station. However, this means that the stop and go operation controls the throughput through the sawing station and no recalculation and variable adjustment of the feeding speed on the conveyor is possible.

Murray therefore only teaches that the infeed conveyor continuously feeds (no mention of any adjustment or recalculation of the speed of the conveyor) or that the infeed conveyor is stopped and started in unison with the rollers (no adjustment or recalculation of the speed to close the gap; throughput reduced).

It is not apparent how based on this disclosure of *Murray* the examiner can arrive at the conclusion that a person skilled in the art would derive from *Murray* that the transport speed is recalculated and variably adjusted in order to minimize the spacing between the logs in the way claimed in claim 15.

Moreover, the paragraph 0037 sets forth that:

“Photocells 28, 29 detect the passage of the forward and trailing end of the log 12. Photocells 28, 29 provide a signal to a **computer, central processing unit or programmable logic controller (not shown) which controls the operation of the tilted bottom rolls 18, 19, tilted fixed side roll 20, tilted side press roll 21 and cut-off saw pivot arm 27.**”

There is no mention of the conveyor 14 being connected or controlled by the computer; no suggestion is made in regard to recalculating or adjusting or controlling the speed of the conveyor 14. An “adjustment” of the speed is only taught in connection with the stop and go operation of the rolls in the sawing station for bucking the log. *Murray* does not suggest what is being claimed in step d) of claim 15 of the instant application. In the method according to instant claim 15 the input signals of the scanned position of the pieces of wood are sent to the control unit (as an indication of the progress of the pieces of wood on the transport device) and also signals in regard to the saw position are sent to the control unit, indicating the progress of the leading piece of wood, and, based on this positional information, the control unit **recalculates and variably adjusts the transport speed to minimize the spacing between sequentially transported workpieces and transport a second piece of wood into the sawing station while the first piece of**

wood is still being cut.

Such a method is not disclosed in the cited reference and is not suggested by it. The reference only teaches that the infeed conveyor either continues to feed (which does not imply any change in speed - to the contrary, this language indicates that the feeding speed is maintained independent of the control provided by the computer mentioned in para 0037) or that the conveyor is operated stop and go in unison with the rolls (which is the standard operation of a bucking saw; see paragraph 0003, last sentence). *Murray's* solution to increasing throughput is providing a second cut-off saw within the bucking system, as evidenced by paragraph 0004, and by providing an improved sawing process as disclosed in para 0039; nowhere is there any suggestion to increase input by recalculating and variably adjusting the feeding speed of the conveyor.

The features of step d) of claim 15 are not obvious in view of *Murray*.

In regard to examiner's statement (page 7, middle of the page) that there must be some controlling means in *Murray* in order to provide smooth operation and maximization of the throughput, it is respectfully submitted that "some controlling means" does not make obvious the step of recalculating and variably adjusting the feeding velocity. "Some controlling means" could be any type of switch that prevents the second log from impacting on the first log by stopping the conveyor.

Claim 16

Regarding claim 16, the examiner has not made a distinction to claim 15 and applies the same reasoning set forth on pages 2 to 5 of the office action to claims 15 and 16.

Claim 16 claims in step d) that continuously a speed of the first and second transport devices is input into the control unit, respectively, and in step e) that the feeding velocity of the pieces of wood on the first transport device is continuously recalculated and variably adjusted, based on the speed of the first and second transport devices (step d)) and the input signals of step b) and step c), such that sequentially transported pieces of wood have a minimal spacing relative to one another and a second piece of wood that trails immediately a first piece of wood being cut in the sawing station is already transported to the second transport device of the sawing station while the first piece of wood is still being cut. See paragraph 0030 of the instant application.

Reference is being had to the detailed discussion above in regard to *Murray*. In summarizing the above, *Murray* thus teaches that the infeed and outfeed conveyors continue to feed as the rolls are stopped for bucking and that by the continued feed the gaps are reduced between the logs; nothing is taught in regard to recalculating and adjusting the conveyor speed. *Murray* teaches also that, instead of continuing to feed with the infeed and outfeed conveyors, the infeed conveyor can be correlated with the stop and go operation of the rolls. This means that the stop and go operation controls the throughput through the sawing station and no recalculation and variable adjustment of the feeding speed on the conveyor is possible.

Murray therefore only teaches that the infeed conveyor continuously feeds (no mention of any adjustment or recalculation of the speed of the conveyor) or that the infeed conveyor is stopped and started in unison with the rollers (no adjustment or recalculation of the speed to close the gap; throughput reduction).

Murray does not disclose inputting continuously a speed of the first and second transport devices into the control unit. *Murray* also does not teach to continuously recalculate and variably adjust, based on the speed of the first and second transport devices of step d) and the input signals of step b) and step c), the feeding velocity of the pieces of wood on the first transport device such that sequentially transported pieces of wood have a minimal spacing relative to one another and a second piece of wood that trails immediately a first piece of wood being cut in the sawing station is transported to the second transport device of the sawing station while the first piece of wood is still being cut.

Murray does not disclose that the speed of the infeed conveyor and the speed of the conveyor in the sawing station are constantly input into a control unit and that the feeding velocity of the pieces of wood on the first transport device is continuously recalculated and variably adjusted based on the speed input as well as based on positional signals. The only disclosed coupling or correlation between the speed of the rolls 18-21 and the conveyor 14 is the stop-and-go operation.

Claim 16 is therefore not obvious in view of *Murray*.

Claim 4

Claim 4 defines that the feeding velocity of the second piece of wood (i.e., the

trailing one) is constantly recalculated. This is not disclosed in *Murray* as *Murray* only teaches stop and go operation or a continuous feeding speed of the conveyor 14. Examiner argues that recalculation is done based on the speed of the feed rollers 18-21. There is no disclosure in *Murray* relating the speed of the rolls 18-21 to the speed of the conveyor 14 other than coupling by stop-and-go operation; this however requires no recalculation and variable adjustment.

Claim 4 is not obvious in view of *Murray*.

Claim 5

Claim 5 claims that scanning is done continuously and that the control unit recalculates the feeding velocity based on the continuously scanned positions of the pieces of wood.

Examiner refers to the photocell 28 as providing the scanning information. However, the photocell 28 controls the stop-and-go operation of the rolls 18-21 and is not used for recalculating and variable adjusting the feeding speed of the conveyor that feeds the logs to the rolls 18-21. No such correlation is disclosed in *Murray*. *Murray* only teaches stop and go operation or a continuous feeding speed of the conveyor 14 and teaches no recalculation of the feeding velocity based on scanned positions of the logs and teaches no variable adjustment of the feeding velocity of the conveyor 14 based on scanned positions of the log.

Claim 5 is not obvious in view of *Murray*.

Claim 6

Claim 6 defines that the feeding velocity of the second piece of wood is controlled so as to minimize a distance between the first and second pieces of wood.

Examiner refers to the variable feed conveyor disclosed in para 0038 and the disclosure of para 0041. As set forth above, the *Murray* reference only teaches stop and go operation or a continuous feeding speed of the conveyor 14; no recalculation of the feeding speed on the conveyor 14 is taught to minimize the distance between the logs.

Claim 6 is not obvious in view of *Murray*.

Claim 10

Claim 10 claims that the measured results (length of the pieces of wood; defects) that are saved are used for recalculating and variably adjusting the feeding velocity of the second pieces wood.

This is not disclosed in *Murray* as *Murray* only teaches stop and go operation or a continuous feeding speed of the conveyor 14; no recalculation of the feeding speed and variably adjusting of the speed of the conveyor 14 taking into account the length of the pieces of wood or the defects - which measured results will have an impact on the time required for passing the sawing station and therefore provide a good basis for recalculating and adjusting the speed for minimizing the distance between the pieces of wood.

Claim 10 is not obvious in view of *Murray*.

CONCLUSION

For the reasons stated above, appellant believes that appealed claims are allowable over the cited prior art reference, and respectfully requests that the Board of Patent Appeals and Interferences reconsider the rejection of the appealed claims and reverse the decision of the examiner in whole.

Authorization is herewith given to charge any fees or any shortages in any fees required during prosecution of this application and not paid by other means to Patent and Trademark Office deposit account 50-1199.

Respectfully submitted on April 5, 2010,

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CLAIMS APPENDIX

4. The method according to claim 15, wherein the feeding velocity of the second piece of wood is continuously recalculated.

5. The method according to claim 4, wherein the step of scanning in step b) is done continuously and wherein the control unit recalculates the feeding velocity based on the continuously scanned positions of the pieces of wood.

6. The method according to claim 15, wherein a feeding velocity of the second piece of wood is controlled so as to minimize a distance between the first and second pieces of wood.

7. The method according to claim 15, wherein, in the step a), a length of the pieces of wood is measured.

8. The method according to claim 7, wherein, in the step a), defects of the pieces of wood are measured.

9. The method according to claim 8, further comprising the step of saving the measured results.

10. The method according to claim 9, wherein the measured results that are saved are used for recalculating and variably adjusting the feeding velocity according to step d).

11. The method according to claim 15, wherein in the step b) the second pieces of wood are supplied without interruption to the sawing station.

12. The method according to claim 15, further comprising the step of decoupling a drive for transporting the pieces of wood to the sawing station from a drive of the sawing station.

15. A method for sawing pieces of wood in a sawing station, the method comprising the steps of:

- a) measuring the pieces of wood in a measuring station;
- b) sequentially and continuously transporting at a variable feeding velocity on a transport device the pieces of wood from the measuring station to a sawing station and scanning a position of each of the pieces of wood during transport on the transport device from the measuring station to the sawing station and sending input signals of the scanned position to a control unit;
- c) cutting the pieces of wood in the sawing station in a transverse direction that is transverse to a transport direction of the pieces of wood in the sawing station while the pieces of wood are stopped briefly to allow cutting in the transverse direction into at least two sections based on measured results taken in the step a) and monitoring a saw position of a saw of the sawing station and sending input signals of the saw position to the control unit;
- d) recalculating and variably adjusting, based on the input signals of step b) and step c), the feeding velocity of the pieces of wood during transport according to step b) such that sequentially transported pieces of wood have a minimal spacing relative to one another and a second piece of wood that trails immediately a first piece of wood being cut in the sawing station is already transported into the sawing station while the first piece of wood is still being cut.

16. A method for sawing pieces of wood in a sawing station, the method comprising the steps of:

- a) measuring the pieces of wood in a measuring station;

b) sequentially and continuously transporting at a variable feeding velocity on a first transport device the pieces of wood from the measuring station to a sawing station provided with a second transport device and scanning a position of each of the pieces of wood during transport on the first transport device from the measuring station to the sawing station and sending input signals of the scanned position to a control unit;

c) moving the pieces of wood on the second transport device through the sawing station and cutting the pieces of wood in the sawing station in a transverse direction that is transverse to a transport direction of the pieces of wood in the sawing station while the pieces of wood are stopped briefly on the second transport device to allow cutting in the transverse direction into at least two sections based on measured results taken in the step a) and monitoring a saw position of a saw of the sawing station and sending input signals of the saw position to the control unit;

d) inputting continuously a speed of the first and second transport devices into the control unit, respectively;

e) continuously recalculating and variably adjusting, based on the speed of the first and second transport devices of step d) and the input signals of step b) and step c), the feeding velocity of the pieces of wood on the first transport device such that sequentially transported pieces of wood have a minimal spacing relative to one another and a second piece of wood that trails immediately a first piece of wood being cut in the sawing station is already transported to the second transport device of the sawing station while the first piece of wood is still being cut.

EVIDENCE APPENDIX

- NONE -

RELATED PROCEEDINGS APPENDIX

- NONE -